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EXAMINER
LELE, TANMAY S

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/075,083	BRINKLEY ET AL.	
	Examiner	Art Unit	
	Tanmay S Lele	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12, 14 - 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12, 14 - 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *08 May 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Response to Arguments

1. Applicant's arguments filed 8 May 2003 have been fully considered but they are not persuasive.

2. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding claims 1 – 5 and 7 – 9, 11 and 12, Applicant attempts to overcome the rejection by stating, "No such electronic switching responsive to download data is shown or suggested in either Wright et al. or Houlberg et al. or their combination. Furthermore, and as a consequence thereof, the communication of download data does not occur via 'said electronically switched communication path.' " As stated in the previous Office Action (paper number 10, page 3) Wright teaches of multiple units coupled to a data line (column 5, lines 57 – 64 and starting column 6, line 64 and ending column 7, line 7). As further stated in the previous Office Action (paper number 10, page 3), Houlberg's introduction was meant to cure this deficiency, and thus provide for the teaching of "electronically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (column 6, lines 32 – 36)" (note the brackets have been added for clarity in language and these are limitations taught by Wright).

Applicant further states, "this switching is not responsive to the download data." References to data routing are inherent to Houlberg, as data from different avionics or electronic warfare equipment would not want to up or downloaded to the improper module (which thus makes the switching or routing of data responsive to the data to be up or downloaded). Note further, Houlberg does posses provisions for addressing data (Figure 1 and column 4, lines 29 –60 and further in column 5, lines 3 – 29). Further not conceding the teachings and use of Houlberg, the operation of electronically switching would still be dependent on the data to be up or downloaded, regardless of if "the switching [were based on an] arbitrary decision by an operator," as the operator would generally decide to up or download appropriate data to the proper module (note further Houlberg has provisions for data validation). Hence, the Examiner is not persuaded by the Applicant's argument that the references, when combined for the cited motivation, do not teach, recite, or suggest the features disclosed.

Regarding claims 6, 10, and 20, Applicant attempts to overcome the rejection by stating, "Weiler et al. does not disclose how the units are switched and does not disclose any switching that is responsive to downloaded data." As stated above, Houlberg was cited as curing this deficiency and not Weiler (see arguments above and previous Office Action, paper number 10, page 6). Hence, the Examiner is not persuaded by the Applicant's argument that the references, when combined for the cited motivation, do not teach, recite, or suggest the claimed disclosed.

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., electronically switching not being manual or suggestion of a processor responsive to ARINC 615 data standard) are not recited in the rejected claim(s). Although the claims are interpreted in light of

the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In further regards to claims 1 – 5 and 7 – 9, 11 and 12, Applicant further states that, " [the] Applicant explicitly distinguishes such electronic switching responsive to download data from manual switching." Electronically switching responsive to download data has been covered above and in the previous Office Action (paper number 10, page 3). Further note that, without conceding the intended use of Houlberg, Applicant does not explicitly state in the claim "automatically" switching. Manual switching does not necessarily preclude the operation from being electronically switching, as evidenced by Houlberg (column 6, lines 32 – 36), wherein though the switching operation is manual, the switching is still electronic. Hence, the Examiner is not persuaded by the Applicant's argument that the references, when combined for the cited motivation, do not teach, recite, or suggest the features disclosed as claimed.

Regarding claims 13 – 19, and 21 - 23, Applicant attempts to overcome the rejection by stating, "the switch taught by Houlberg is a simple manual switch," and "there is no teaching or suggestion of a processor responsive to ARINC 615 data standard." Electronically switching responsive to download data has been covered above and in the previous Office Action (paper number 10, pages 3 and 8 – 9) and the difference in manual versus electronically addressed in claims 1 – 5 and 7 – 9, 11 and 12 as above. Further note that as originally submitted, ARINC 615 was not noted in the claim and hence not addressed. Hence, the Examiner is not persuaded by the Applicant's argument that the references, when combined for the cited motivation, do not teach, recite, or suggest the features disclosed as claimed.

DETAILED ACTION

Oath/Declaration

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
The full name of each inventor (family name and at least one given name together with any initial) has not been set forth (missing signature in accordance with 37 CFR 1.63(d)).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 – 11 and 13 – 25 are provisionally rejected under the judicially created doctrine of double patenting over claims 1 – 18 of copending Application No. 10/042374. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Regarding claim 1 of the present application, the present invention is of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising: wirelessly communicating download data for one said avionics unit from the data communication apparatus to an aircraft data services link in the aircraft; electronically switching a communication path from said aircraft data services link to said avionics unit responsive to said download data; and electronically communicating said download data from said data communication apparatus to said avionics unit via said electronically switched communication path (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 2, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said wirelessly communicating download data comprises wirelessly communicating said download data via a wireless spread spectrum link (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 3, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of comprising electronically communicating fault information pertaining to said download data from said avionics unit to said aircraft data services link via an electronically switched communication path, and wirelessly communicating said fault information from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 4, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of comprising electronically communicating aircraft performance data from an aircraft condition monitoring system on said aircraft to said aircraft data services

link, and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 5, the present invention teaches all the claimed limitations as recited in claim 4 and further teaches of comprising said aircraft condition monitoring system obtaining said aircraft performance data via an electronic communication from at least one member of the group consisting of an aircraft communication and reporting system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 6, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 7, the present invention teaches all the claimed limitations as recited in claim 1 and further teachesof wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (as seen in claims 11, 12, and 6 – 10 of application number 10/042,374).

Regarding claim 8, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said download data comprises flight operations quality assurance data (as seen in claims 11, 12, 6 – 10, 1 and 3 of application number 10/042,374).

Regarding claim 9, the present invention is of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising: electronically switching a communication path from one said avionics unit

to an aircraft data services link in the aircraft; electronically communicating data from said avionics unit to said aircraft data services link via said electronically switched communication path; and wirelessly communicating said data from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 10, the present invention teaches all the claimed limitations as recited in claim 9 and further teachesof wherein said electronically switched communication path comprises an ARINC 429 bus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 11, the present invention teaches all the claimed limitations as recited in claim 9 and further teachesof comprising electronically communicating aircraft performance data from at least one member of a group consisting of an aircraft condition monitoring system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit to said aircraft data services link, and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 13, the present invention is of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft: an aircraft data services link having a processor, means for wirelessly transmitting and receiving data to and from a data communication apparatus external to the aircraft, and an electronic switch; a plurality of avionics units coupled to said remotely controllable switch; wherein said

processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data, and to control said electronic switch to selectively couple said intended destination avionics s unit to said aircraft data services link to provide data communication between a said intended destination avionics unit and the data communication apparatus via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 15, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein said means for wireless transmitting and receiving comprises a spread spectrum receiver and transmitter (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 18, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of comprising an aircraft condition monitoring system on the aircraft, said aircraft condition monitoring system electronically coupled to said aircraft data services link, wherein said processor is responsive to data transferred from said aircraft condition monitoring system to said aircraft data services link and configured to schedule wireless transmission of said data transferred from said aircraft condition monitoring system to the data communication apparatus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 19, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of comprising at least one member of the group consisting of an aircraft communication and reporting system on the aircraft, a maintenance control display unit

on said aircraft, and a digital flight data acquisition unit on the aircraft, and wherein said at least one member is operatively coupled to said aircraft condition monitoring system to communicate information to data communication apparatus wirelessly via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 20, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein at least two of said plurality of avionics units coupled to said remotely controllable switch are coupled to said remotely controllable switch via A429 ARINC 429 busses (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 21, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein said aircraft data services link is configured to communicate ARINC 615 compliant data to at least some of said avionics units (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 22, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein said aircraft data services link includes a memory coupled to said processor, and said processor is configured to maintain a database in said memory containing version identifiers of software in said avionics units, and to update said database when data transmitted from said data communication apparatus is communicated to an avionics unit via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 23, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of configured to wirelessly download flight quality assurance data (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 25, the present invention is of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft: an aircraft data services link having a processor and means for wirelessly transmitting to a data communication apparatus external to the aircraft; a plurality of avionics units coupled to a remotely controllable electronic switch; wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data, and to control said electronic switch to selectively couple said intended destination avionics unit to said aircraft data services link to provide data communication between a said intended destination avionics unit and the data communication apparatus via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

Regarding claim 25, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said electronically switching a communication path further comprises identifying an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data (as seen in claims 11, 12, 6 – 10, and 1 – 4 of application number 10/042,374).

7. Claims 14 and 16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 18 of copending Application No. 10/042374. This is a provisional double patenting rejection since the conflicting claims have not yet been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other because

Regarding claims 14, 16, and 17 the present invention teaches all the claimed limitations as recited in claim 13. Claim 7 of application number 10/042,374 teaches of a WAN and LAN using wireless spread spectrum technology. However, Claim 7 of the application number 10/042,374 does not specifically state IEEE 802.11 or 802.11a or AM. IEEE 802.11 or 802.11a or AM transceivers are claim 7 teaches which are commonly known in the art to be IEEE 802.11 devices is a matter of system preference and is very well known in the art, thus the Examiner takes "Official Notice" as such. Therefore it would have been obvious to one skilled in the art, at the time of invention, to combine 10/042,374 with the IEEE 802.11 or AM transceivers in order for the devices to communicate, as taught by application 10/042,374.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 13 and 24 recites the limitation "said avionics unit" in lines 10 and 10 (as numbered from the start of the claim). There is insufficient antecedent basis for this limitation in the claim.

Claims 14 – 23 are rejected as being dependent on claim 13.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1 – 5, 7 –9, 11, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505).

Regarding claim 1, Wright teaches of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising (column 1, lines 42 – 47 and column 7 lines 2 – 7): wirelessly communicating download data for one said avionics unit from the data communication apparatus to an aircraft data services link in the aircraft (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8) and electronically communicating said download data from said data communication apparatus to said avionics unit (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29 and column 6, lines 25 –41).

Wright does not explicitly teach of electronically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an avionics programming terminal, Houlberg teaches of electronically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Regarding claim 2, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said wirelessly communicating download data comprises wirelessly communicating said download data via a wireless spread spectrum link (column 2, lines 25 – 29 and column 5, lines 43 – 47).

Regarding claim 3, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 1. Houlberg further teaches of further comprising electronically communicating fault information pertaining to said download data from said avionics unit to said aircraft data services link via an electronically switched communication path (starting column 32, line 67 and ending column 33, line 4), and Wright further teaches of wirelessly communicating [said fault

information] from said aircraft data services link to said data communication apparatus (column 6, lines 25 – 41).

Regarding claim 4, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 1. Wright further teaches of comprising electronically communicating aircraft performance data from an aircraft condition monitoring system on said aircraft to said aircraft data services link (column 5, lines 48 – 64 and starting column 6 line 59 – and ending column 7, line 7), and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (column 6, lines 25 – 41).

Regarding claim 5, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 4. Wright further teaches of comprising said aircraft condition monitoring system obtaining said aircraft performance data via an electronic communication from at least one member of the group consisting of an aircraft communication and reporting system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (column 5, lines 38 – 64 and further in starting column 6, line59 and ending column 7, line 33).

Regarding claim 7, Wright in view of Houlberg teach all the claimed limitations as recited in claim 1. Wright further teaches wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (column 31, lines 46 – 54).

Regarding claim 8, Wright in view of Houlberg teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said download data comprises flight operations quality assurance data (column 6, lines 25 – 41).

Regarding claim 9, Wright teaches of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising: electronically communicating data from said avionics unit to said aircraft data services link (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29) and wirelessly communicating said data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 6, lines 25 –41).

Wright does not specifically teach of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] and [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an avionics programming terminal, Houlberg teaches of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] and [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Regarding claim 11, Wright in view of Houlberg teach all the claimed limitations as recited in claim 9. Wright further teaches of comprising electronically communicating aircraft

performance data from at least one member of a group consisting of an aircraft condition monitoring system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit to said aircraft data services link (column 4, lines 49 – 55 and column 6, lines 34 – 41 and starting column 6, line 59 and ending column 7, line 12), and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and column 6, lines 26 – 42).

Regarding claim 25, Wright in view of Houlberg teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said electronically switching a communication path further comprises identifying an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data (column 31, lines 46 – 54).

12. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) as applied to claims 1 and 9 above, and further in view of Weiler et al. (Weiler, US Patent No. 5,970,395).

Regarding claims 6 and 10, Wright in view of Houlberg, teach all the claimed limitations as recited in claims 1 and 9. Wright in view of Houlberg, do not specifically teach of wherein said electronically switched communication path comprises an ARINC 429 bus.

In a related art dealing with avionics equipment, Weiler teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (column 6, lines 14 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Houlberg's programming method, Weiler's bus, for the purposes of using a standardized bus already present on aircraft (thus preventing the need for additional hardware) as taught by Weiler.

13. Claims 13 – 16, 18, 19, and 21 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) in further view of Bird et al. (Bird, US Patent No. 5,079,707).

Regarding claim 13, Wright teaches of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft (column 1, lines 42 – 47 and column 4, lines 49 – 55): an aircraft data services link having a processor, means for wirelessly transmitting and receiving data to and from a data communication apparatus external to the aircraft (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 29), a plurality of avionics units (column 7, lines 2 – 7); wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A complaint data and to provide data communication between a said intended destination avionics unit and the data communication apparatus via said aircraft data services link (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 30 and column 31, lines 46 – 54).

Wright does not specifically teach of an electronic switch, [a plurality of avionics units coupled] to said remotely controllable switch, or to control said electronic switch [to selectively couple said intended destination said avionics units to said aircraft data services link].

In a related art dealing with an avionics programming terminal, Houlberg teaches of an electronic switch and [a plurality of avionics units coupled] to said switch (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Wright in view of Houlberg, still do not teach of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with avionics testing, Bird teaches of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link] (column 5, lines 45 – 63).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Houlberg's communication system, Bird's controllable switch, for the purposes of certifying avionics equipment without human intervention (and thus possible error), as taught by Bird.

Regarding claim 14, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further discloses the use of the ISM 2.4 GHz band as the medium for transmission and reception and further details the use of a spread spectrum

transceiver (column 9, lines 20 – 49 and column 12, lines 9 – 40). However, Wright does not explicitly show of using the 802.11 standard for the transceiver. The use of 802.11 is a matter of system preference and it should further be noted that many of the parameters detailed by Wright in the cited passages, are all facets of the 802.11b standard (ie frequency range, multiple access scheme, data rates, the inclusion of multiple modulation techniques, ect) and thus Examiner takes "Official Notice." Therefore, it would have been obvious to one skilled in the art at the time of invention to have combined Wright in view of Houlberg and Bird, with the 802.11 standard for communications purposes, as taught inferred by Wright.

Regarding claim 15, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of wherein said means for wireless transmitting and receiving comprises a spread spectrum receiver and transmitter (column 9, lines 20 – 49 and column 12, lines 9 – 40).

Regarding claim 16, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches the use of utilizing the ISM 2.4 GHz band as the range for transmission and reception of data. However, Wright does not teach wherein said means for wireless transmitting and receiving comprises an IEEE 802.11a receiver and transmitter. The use of 802.11a is a matter of system preference and thus Examiner takes "Official Notice." Therefore, it would have been obvious to one skilled in the art at the time of invention to have combined Wright in view of Houlberg and Bird, with the 802.11a standard for communications purposes in an unlicensed ISM band, as taught inferred by Wright (note that 802.11a resides in the 5.8 GHz band).

Regarding claim 18, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of comprising further comprising an aircraft condition monitoring system on the aircraft (Figure 13 and column 6, lines 50 – 58), said aircraft condition monitoring system electronically coupled to said aircraft data services link (starting column 6, line 59 and ending column 7, line 12), wherein said processor is responsive to data transferred from said aircraft condition monitoring system to said aircraft data services link (starting column 6, line 59 and ending column 7, line 12) and configured to schedule wireless transmission of said data transferred from said aircraft condition monitoring system to the data communication apparatus column 6, lines 26 – 49).

Regarding claim 19, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 18. Wright further teaches of comprising at least one member of the group consisting of an aircraft communication and reporting system on the aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (column 7, lines 1 – 7), and wherein said at least one member is operatively coupled to said aircraft condition monitoring system to communicate information to data communication apparatus wirelessly via said aircraft data services link (column 5, lines 38 – 64 and further in starting column 6, line 59 and ending column 7, line 33).

Regarding claim 21, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (column 31, lines 46 – 54).

Regarding claim 22, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of wherein said aircraft data services

link includes a memory coupled to said processor (as seen in Figure 13 and column 7, lines 16 - 29), and said processor is configured to maintain a database in said memory containing version identifiers of software in said avionics units (Figure 13 and column 7, lines 13 – 29 and column 5, lines 56 – 64), and to update said database when data transmitted from said data communication apparatus is communicated to an avionics unit via said aircraft data services link (Figure 13 and column 7, lines 13 – 29).

Regarding claim 23, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of configured to wirelessly download flight quality assurance data (column 6, lines 25 – 40).

Regarding claim 24, Wright teaches of an Wright teaches of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft (column 1, lines 42 – 47 and column 4, lines 49 – 55): an aircraft data services link having a processor, means for wirelessly transmitting to a data communication apparatus external to the aircraft (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 29), a plurality of avionics units (column 7, lines 2 – 7); wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A data and to provide data communication between a selectively coupled avionics unit and the data communication apparatus via said aircraft data services link (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 30 and column 31, lines 46 – 54).

Wright does not specifically teach of [a plurality of avionics units coupled] to a remotely controllable switch, or to control said electronic switch [to selectively couple said intended destination said avionics unit to said aircraft data services link].

In a related art dealing with an avionics programming terminal, Houlberg teaches of an electronic switch and [a plurality of avionics units coupled] to said switch (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Wright in view of Houlberg, still do not teach of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with avionics testing, Bird teaches of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link] (column 5, lines 45 – 63).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Houlberg's communication system, Bird's controllable switch, for the purposes of certifying avionics equipment without human intervention (and thus possible error), as taught by Bird.

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) in view of Bird et al. (Bird, US Patent No. 5,079,707) as applied to claim 13 above,

and further in view of CNS Systems Inc. (CNS Systems, INC, "Data for the Air Transport Industry").

Regarding claim 17, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright in view of Houlberg and Bird, do not specifically teach of teach wherein said means for wireless transmitting and receiving comprises an amplitude modulation receiver and transmitter.

In a related art dealing with airline data communications, CNS Systems Inc, teaches of wherein said means for wireless transmitting and receiving comprises an amplitude modulation receiver and transmitter (page 2).

It would have been obvious to one skilled in art at the time of invention to have included into Wright, Houlberg, and Bird's communication system, CNS Systems Inc's AM modulation scheme, for the purposes of cost savings, as taught by CNS Systems Inc.

15. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) and Bird et al. (Bird, US Patent No. 5,079,707) as applied to claim 13 above, and further in view of Weiler et al. (Weiler, US Patent No. 5,970,395).

Regarding claim 20, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright in view of Houlberg and Bird, do not specifically teach of wherein at least two of said plurality of avionics units coupled to said remotely controllable switch are coupled to said remotely controllable switch via A429 ARINC 429 busses.

In a related art dealing with avionics equipment, Weiler teaches of wherein at least two of said plurality of avionics units coupled to said remotely controllable switch are coupled to said remotely controllable switch via A429 ARINC 429 busses (column 6, lines 14 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright, Houlberg and Bird's programming method, Weiler's bus, for the purposes of using a standardized bus already present on aircraft (thus preventing the need for additional hardware) as taught by Weiler.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Tanmay S Lele
Examiner
Art Unit 2684

NAY MAUNG
PRIMARY EXAMINER

tsl
July 1, 2003